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# FOOD NEWS

USDA  
MAY 1988  
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**FOR CONSUMERS**

United States Department of Agriculture Volume 5 Number 2 Summer 1988



## WHAT PUZZLES PEOPLE ABOUT FOOD?

(STORY P 6)



**Tips for Keeping Food  
Safe on the Go**

**Handling Deli  
Foods**

**Latest Salmonella  
Research**

# FOOD NEWS

## FOR CONSUMERS

Summer 1988

Vol. 5, No. 2

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## Ask the Consumer Advisor



Dear Consumer Advisor:

I know USDA does a lot of consumer education on food safety, but do you ever work directly with the food industry to prevent problems?

Dear Reader:

Actually we're working with the grocery industry right now to forestall some food safety problems we feel could develop with ready-prepared foods.

This effort began when consumers started calling our Meat and Poultry Hotline with questions on handling these foods. We then began discussions with supermarket consumer affairs professionals, USDA scientists, FDA officials and local health departments to determine the seriousness of the problem.

As a result of our efforts, the Food Marketing Institute, a trade association for supermarkets, is now developing materials for grocery deli and meat managers to use as they answer consumer questions on the home storage and cooking of convenience products.

Plus, FMI and its member supermarkets are also working on easy-to-understand handling information that will be printed directly on deli products.

For our part, USDA is paying particular attention to the handling instructions on those new meat and poultry products that offer extended cold storage time. Since we now know that several foodborne bacteria can grow in refrigeration, we want to make sure consumers are getting safe and unambiguous label advice on how long these foods really keep. We're stressing using deli leftovers quickly, too, and reheating all leftovers to at least 160°F.

Sincerely,

*Ann Collins Chadwick*

ANN COLLINS CHADWICK, Director  
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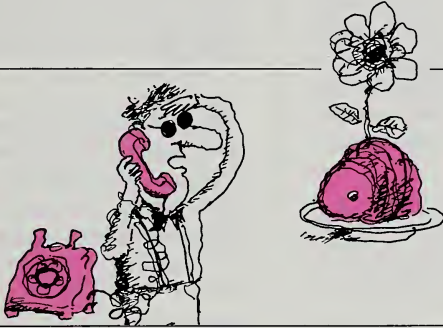
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## Health and Nutrition

### Hotline Calling — Those "Deli" Questions

It's summer, and it's so easy to stop at the end of the day to pick up something quick and delicious at the new supermarket deli counter. Just remember that these prepared foods need careful handling, especially in warm weather when high temperatures encourage the growth of food poisoning bacteria.

Here are some tips from USDA's Meat and Poultry Hotline, 1-800-535-4555, on handling these new ready-to-eat foods.

**Q:** My husband really enjoys the potato salad our local deli sells. I want to serve it for our family picnic but I'm worried about keeping it safe. Any suggestions?

**A:** Deli-produced potato salad can be a great timesaver if you play it safe. Buy from a reputable store that makes the salad fresh each day. Ask the deli clerk to put it in several small cartons. Place the cartons in ice in your picnic carrier before you leave the store. Put only 1 or 2 cartons out on the table initially, each with its own plastic spoon. When those are empty, use the remaining cartons from the cooler with fresh spoons. Don't leave any perishable food out on the picnic table over 2 hours.

**Q:** I'd like a quick and ready-to-eat main dish for the Fourth of July reunion we attend. Any suggestions?

**A:** Have you seen the fully-cooked, smoked turkey that many markets are offering as a frozen entree? When purchasing, check the label for "best if used by dating." Depending on its size, thaw the bird in the refrigerator for 2-3 days. Then carve the turkey for

cold sandwiches at your reunion. Put several small packages of the sliced turkey on ice in your cooler. Freeze any portions you won't be taking with you for later use.

**Q:** I ran across some odd-looking new packages in the meat case at the store recently. The outside edges of these packages are nearly flat with the meat perched in the center like an island. The meat's a dark color. What is this?

**A:** It sounds like you've seen some of the new vacuum-packed meats that are being test marketed now in several parts of the country. The dark color is the result of the vacuum packing that removes oxygen from the area surrounding the meat. The bright red color or "bloom" you're used to seeing will return to the meat when the package is opened. Meanwhile, as long as the vacuum seal is unbroken, these packages should keep in the refrigerator for about 7 days. Frozen, they should last at top quality for a year.

**Q:** My family loves barbequed chicken. The problem is that we're often too rushed to grill it ourselves, so I pick it up hot off the rotisserie at a quick-stop place on my way home from work. Is this safe?

**A:** Probably, especially if you serve it to your famished crew the minute you get home. Otherwise, cut it into smaller portions for refrigerating and later reheating in the microwave or oven. Hint: Buy some extra sauce. This is great to reheat and serve with the warm chicken. Or if you reheat the chicken, you can use it to baste the bird, adding flavor and keeping the meat moist. Use all leftovers within two days.

**Q:** I bought a package of uncooked, meat-filled pasta called tortellini from the freezer case at the grocery. Then I left it on the refrigerator shelf for a few days. Will it still be safe to use in a cooked, refrigerated summer salad?

**A:** Yes, you can still probably use the tortellini as long as you're within the "use-by" date, if there is one, shown on the package. Boil the pasta as directed and stir into the salad. Refrigerate the salad. It should keep 3 or 4 days. In the future, freeze the tortellini if you're not going to use it right away.

**Q:** I recently noticed some raw, pre-seasoned chicken breasts in the meat case. They look great, and you can choose from lemon-and-herb seasoning, marinated or barbecued varieties. Are there any special handling problems with these new products?

**A:** The pre-seasoning shouldn't change your normal handling of the product. Make sure you're within the

Keep meat-filled pasta like tortellini frozen until you're ready to cook it.





**USDA's Meat and Poultry Hotline, 1-800-535-4555, currently receives some 4,800 consumer calls each month.**

"use-by" date when purchasing, then plan either to freeze the breasts or use them within 1 or 2 days if you'll be storing them on the refrigerator shelf.

This might be a good time to check that your refrigerator's running safely too. This means it should register 40°F when checked with an appliance thermometer. The freezer unit should hold at 0°F.

**Q:** My supermarket sells the already stuffed raw cornish hens to save consumers time in preparation. Per-

sonally, I never put stuffing in poultry until just before putting it in the oven. Why is there a difference in these products and what I normally do?

**A:** We don't think there should be a difference. USDA recommends against the purchase of previously stuffed whole poultry products since these items are highly perishable. Specifically, normally adequate cold storage may not stop bacteria from growing in the stuffing inside the bird's cavity.

However, if you find a cornish hen packaged separately from the stuffing, buy it. You can insert the stuffing yourself just before cooking.

— Dr. Georgia L. Stevens

## News Wire

### **RVIS vs. Residues**

American agriculture uses veterinary drugs to raise healthy animals. But, when legal requirements or label directions aren't followed, drug residues can remain in animal tissue at slaughter.

USDA's Food Safety and Inspection Service is introducing a new computer system, called RVIS, to spot patterns in drug misuse. RVIS, short for Residue Violation Information System, is a database that joins FSIS regional offices with the Food and Drug Administration for quick information exchange. "The system can cross-reference violations by name, address, zip code, type of violation or even part of a name," said Dr. Joseph Blair, head of the RVIS group.

Violators may try to market animals in different part of the country or under different names to avoid detection. RVIS will alert FSIS to violation patterns that signal problems and allow the agency to move before the trail gets cold.

RVIS will also make monitoring and tracking "middlemen" easier. Middlemen, also known as "brokers" and "cow jockeys," supply animals to slaughter plants but don't raise the animals.

"Most brokers are honest, but a few try to violate the law. Some even brag that the animal will not be traced to the producer if it contains illegal residues," Blair said.

RVIS is out to change that. Suppose FSIS notifies a producer that an animal tested positive for drug residues. The producer says the animal was sold to a broker long before the sample was taken. The producer's name is fed into the RVIS system and only the current violation shows up, but when the broker's name is run, numerous violations pop up. RVIS would allow FSIS and FDA to quickly determine the true source of the problem.

— Richard Bryant

Vacuum-packed products look darker since oxygen has been removed from the package. They last somewhat longer on the refrigerator shelf. Check for a use-by date.

Pre-seasoned chicken breasts, like any fresh chicken, will last 1-2 days refrigerated.



## Consumer Education

### What Puzzles People About Food?

by Linda Russell

What happens when the soup bone glows in the dark?

How can an aficionado of Chinese food safely tote her favorite dinner from San Francisco to the Big Apple?

And, a distraught woman wonders, "Did we really have to throw out the whole roast just because my daughter-in-law mistook a daffodil bulb for an onion and sliced it over the meat?"

These are some of the more exotic questions that consumers have asked USDA's Meat and Poultry Hotline since it started in July 1985. While the Hotline's trained home economists answer thousands of questions about food safety for meat and poultry, they spend most of their time explaining the basics.

"About ninety percent of our calls are about basic food safety—What are safe cooking temperatures? How soon should cooked dishes be refrigerated? How should meat and poultry be stored?" says Susan Templin, home economist and manager of the Hotline.

The caller who complained of the soup bone glowing in the dark was told that the bone, left overnight in the sink, had become contaminated with a bacteria that was iridescent and the bone should be thrown out.

The woman with a taste for Chinese food was given the basic rule that hot foods should be eaten within two hours of cooking. To guard against bacterial contamination, she would have to freeze the meal and then carry it in an ice chest. She decided that, when it comes to coast-to-coast dining, you can't take it with you!

The irate mother-in-law lost her argument. After researching the matter,



the Hotline staff found that daffodil bulbs are toxic to humans, and could have contaminated the entire roast.

**Salmonella—a Variety of Questions.** Concerns change with the times. The Hotline answers many questions about Salmonella and other foodborne bacteria. But the home economists fear that people may be worrying about the wrong things.

For instance, many people wrongly associate Salmonella only with chicken. Actually, it can be found throughout the environment, even in the soil. Unpasteurized milk, eggs, raw meat or poultry can all carry the bacteria. The secret is to refrigerate and cook these foods thoroughly. Cook meat to 160°F and poultry to 180°F.

Also, the illness often comes from cross-contamination, when bacteria is transferred from raw meat or poultry to other foods such as salad. To avoid transferring bacteria, cooks should wash their hands, utensils and counters thoroughly with soap and warm water after handling raw meat or poultry.

**What to do When the Power Goes Out.** In many parts of the country, storms, ranging from hurricanes to blizzards, periodically bring power outages to thousands of homes, leaving meat and poultry to thaw in the freezer. And there is another variation on the power outage, too, that usually begins with a caller saying, "My spouse unplugged the freezer..." Strangely enough, the one who calls never admits to the evil deed.

Whatever the cause, the answer is the same. Ordinarily, a fully stocked freezer will keep food frozen for two days after losing power. A half-full freezer will keep it for about one day. Food in a refrigerator will normally last 4 to 6 hours after the power goes off.

If the food is still frozen when the power comes back on, fine. If it has completely thawed, but is still as cold





as if it had been in a refrigerator, consumers are advised to cook the meat and poultry immediately. Also, Hotline staffers frequently remind consumers that the safest way to thaw meat and poultry is in the refrigerator — never on the counter.

**The Overnight Mistake.** One woman called the Meat and Poultry Hotline to ask about five pounds of meat, at \$5.00 a pound, that she had cooked and left to cool on the counter. She watched the late show, went to bed, and forgot all about the meat.

Next morning, a Friday, she called the Hotline. A home economist advised her not to eat the meat, since any cooked meat or poultry can grow bacteria if it goes unrefrigerated for more than two hours. Meat and poultry are best cooled in the refrigerator, in shallow containers.

"I'm gonna try it anyway," the woman said, anguished at the thought of sending \$25 down the garbage disposal. Next Monday, she called the Hotline again. "You were right," she said, "I've never had such bad stomach cramps in my life!"

**Have Turkey, Will Travel?** Holidays are traditional times for families to get together. But what happens when Grandma is in one state and the turkey in another? One Hotline caller asked about taking her Thanksgiving turkey to her grandmother's house. "What state is it in?" asked the home economist, referring to the bird's condition — whether raw or cooked, frozen or smoked. "Nebraska," said the caller, "but I want to take it to Kansas."

No matter what the location, the Hotline advises that turkey be eaten or refrigerated within two hours after cooking, and that it not be reheated

## What Puzzles People the Most?

Last year, Hotline staffers found that many people had the same food safety questions on their minds. By percentages, these are the topics that puzzled people the most:

Preparation .....	17%
Freezing .....	12%
Food poisoning .....	10%
Refrigeration .....	9%
Power outages .....	2%
Thawing .....	2%
Storage .....	2%
Handling .....	2%

as a whole bird. So, to transport the turkey safely, the consumer would have to cut the turkey into small portions, freeze it in shallow containers, and then transport it in a well-cooled ice chest.

The most touching call came from an 11-year-old girl, Templin says. The child started off by saying, "My Mom died a couple of years ago and I want to cook a birthday dinner for Dad like she used to." While the Hotline staffers do not usually give recipes, they broke their rule this time and talked the girl through a chicken dinner with all the trimmings.

**Even Experienced Cooks Have Questions.** The Hotline is not just for beginning cooks. Many people who have been cooking for decades call for information. "Older people are very concerned about what they read in the papers or see on TV about food poisoning," says Bessie Berry, a soft-spoken woman with both a home eco-

nomics degree and a master's in consumer affairs. "They've lost their self-assurance. Yet, if they haven't had any illness, they've probably been doing things right all those years."

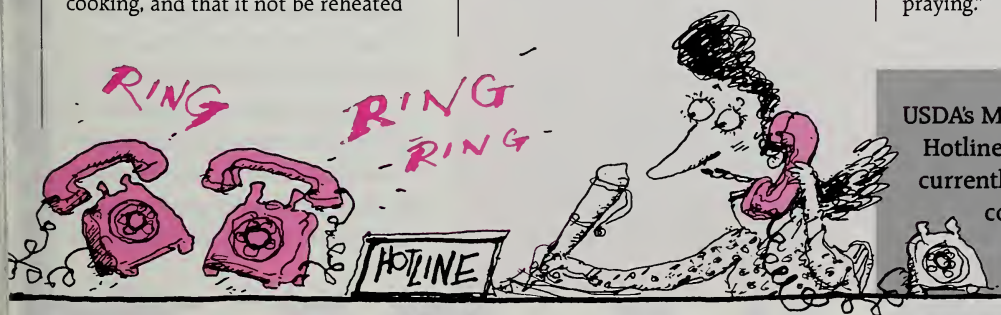
Berry says many older callers also ask why chicken doesn't taste the way it used to. "The answer is that chickens were older then. Often, a tough old stewing chicken made the best chicken and dumplings. Now chickens are slaughtered at about 7 weeks of age. These younger chickens are more likely to have dark bones, even after thorough cooking. But the chicken is safe to eat as long as it has reached an internal temperature of 180°F."



**The "Earthworm" Myth.** Several myths keep popping up to give the Hotliners grief. For instance, periodically stories will emerge about earthworms being an essential ingredient in hotdogs. This comes from the fact that sodium erythorbate is often used in preparing cured meat products to give them a red color. The additive has been mispronounced as "earthbate," and the myth began!

Last year, about 50,000 people called the Meat and Poultry Hotline for advice about food safety. Hotline home economists always ask callers where they found out about the toll-free number. The usual answers are newspapers, magazines, television, government agencies or friends. But one woman replied: "I don't know where I found it, but I have it here in my prayer book, because I knew if I got food poisoning again I would be praying."

USDA's Meat and Poultry Hotline, 1-800-535-4555, currently receives some 4,800 consumer calls each month.



## Food Safety

### Researching the Salmonella Problem

by Mary Ann Parmley

Nearly all food scientists agree that the salmonella bacteria — there are over 2,000 types — is proving difficult to control. Why?

First there's the nature of the beast — widespread, stubborn and not eager to yield any of its secrets. "Some twenty years of research have only begun to expose the difficulty of salmonella control," says Dr. William Dubbert, assistant head of USDA's science program.

Second, and a problem not widely understood, is that almost any farm animal can be a carrier. Dubbert explains, "Chickens, for instance, can carry salmonella with only slight or no symptoms, and while pigs sometimes sicken with salmonella, it isn't a frequent concern."

In the past, then, it's sometimes been hard to convince producers to take arduous measures to try to wipe out a bug they felt would always be around.

Fortunately, few hold that view now. Today, with improved testing of products and better reporting of human illness, salmonella is viewed as a serious concern. And all kinds of re-

search efforts at eradication and control are proceeding full steam ahead. Here's a rundown on some of USDA's more promising projects.

#### In Baby Chicks

Dr. Nelson A. Cox, at USDA's Russell Research Center in Athens, Ga., is exploring ways to improve a procedure called competitive exclusion — CE — to protect young chicks against salmonella.

He feeds "good" bacteria and other micro-organisms that normally grow later on in an adult chicken's intestine to newly-hatched chicks to restrict salmonella growth.

"For the past year and a half," says Cox, "we've been introducing the microflora (normal organisms) from the intestines of adult chickens into the gut of day-old chicks."

Then they expose the treated chicks to a test dose of salmonella. "We're getting good results," he says. "Only in about 0-20% of our treated chicks has the test salmonella dug in and grown. By comparison, the test salmonella grows well in the intestine of about 90% of the non-treated chicks."

"Think of it as 'first come, first served,'" says Cox. "A newly-hatched baby chick's gut is virtually sterile when it moves out of the egg. That's a clear patch in which salmonella can settle. But when you introduce the normal microflora of an adult bird into the area, you reduce how much salmonella can grow. It's

like the good guys get there and become kings-of-the-mountain first."

#### On Chicken Skin

Remember how desperadoes in the old West hid from posses behind rocks and in caves?

While Dr. Huda Lillard, a Russell Center researcher examining the effect of plant washing procedures on salmonella, might not choose that image, it does explain her findings.

"What I see," says Dr. Lillard, when I look at salmonella on chicken skin under the electron microscope is that the bacteria are very good at hiding in crevices in the surfaces of the skin and in feather follicles."

She continues, "This is a problem, because any number of easy-to-use things would kill these bacteria if we could reach them. Heat in the scald water, used to loosen the feathers, would. A number of bactericides would. But they hide in these crevices, and the problem becomes worse since every time you immerse the bird in water the skin plumps up into deeper crevices."

Dr. Lillard therefore is heading up a research team to investigate alternatives to immersion washing of chicken either for scalding or water chilling — used to quickly lower the bird's temperature to refrigeration levels.

The group is considering two possibilities — spray rather than immersion scalding, and wrapping birds in plastic bags before putting them in a chiller tank.



The bag would protect chickens from trading bacteria, which also happens in water.

## On Red Meat

The good news is that two USDA teams have had considerable success in washing surface contaminants off sides of red meat in a specially-designed "shower" that may soon be adapted for actual plant use.

USDA engineer Dr. Maynard Anderson heads the Columbia, Mo., team. And microbiologists Dr. James Dickson and Dr. John Crouse in Clay Center, Neb., are working cooperatively with Anderson.

Dr. Michael Rose, head of USDA's Sanitation Standards section, says these teams have gotten reductions of up to 90% of the bacteria on the carcass in its pre-wash state.

"Now," says Rose, "they're at the point of evaluating some organic acids that, added to the water, will reduce the bacterial count even further." The two acids — acetic and lactic acid — are safe for use on food. Acetic acid is vinegar and lactic acid is a close chemical "cousin" to vinegar.

Used in dilute solutions so they don't affect the taste of the meat, Rose says, the acid will lower the pH (acid-base reading) of red meat to about 4. Most bacteria grow best at a neutral pH of 6 or 7, so this is low enough to "kill some cells, injure others and impede the growth of most," says an encouraged Rose.

## In a Model Plant

Work is beginning on what will probably be a two-year project to set up a model poultry plant in Puerto Rico.

Why Puerto Rico? "This plant has motivated management, the latest equipment and low employee turnover, which will allow us to better test training procedures," says Dr. Douglas Berndt, director of USDA's Technical Services division.

Talk about motivated. According to Berndt, the plant president Antonio Alvarez is not only a successful businessman but something of a visionary. "Alvarez," says Berndt, "really wants to be on the team that figures out how to produce the safest chicken in the world."

How do you go about putting out the world's safest chicken? "First," Berndt says, "we'll define those critical points in the production process where salmonella and other contaminants need to be closely monitored."

Berndt continues, "Second, we'll look at the supply of birds coming into the plant. We want the cleanest flocks possible — the most free of bacteria — so that we don't have high bacterial counts at the start. That's easier to arrange on a small island where you can work with a limited number of suppliers directly."

"Finally," Berndt says, "in terms of oversight, we're commissioning an expert panel — people from the National Academy of Sciences, academia and elsewhere — to help us with this effort. They'll be working with us as we set up the prototype systems. And when we have a report ready or we're ready to announce a major accomplishment, we'll ask the panel to review and assess the results."

Perhaps "Pollo Picu," the brand of chicken produced by the plant, which means "cocky little chicken" in Spanish, is a fitting mascot for this ambitious undertaking.

## Taking the Long View

Something of a philosopher of science, Dr. Lester Crawford, head of USDA's Food Safety and Inspection Service, proposes this outline to explain recent skirmishes in the War Against Foodborne Illness.

Dr. Crawford feels that the 1970s — were the decade of concern over chemical residues,

the 1980s — were the decade of bacterial problems and the 1990s — will be the decade of the viral invaders.

Food virologist Dr. Dean Cliver, at the University of Wisconsin, Madison,

agrees, "In addition to the classic foodborne viruses — polio and Hepatitis-A — we're seeing more and more of the Norwalk-like viruses today."

There have been Norwalk outbreaks, says Dr. Cliver, from food handlers introducing the virus into green salads and from shellfish contaminated by coastal dumping of untreated sewage. Norwalk causes vomiting and diarrhea and cycles through intestinal tracts and sewage.

Cliver adds, "Norwalk is also highly infectious — you see illness in 60-80% of people exposed to it. In Minnesota in 1982, for example, some 3,000 people got the virus from a carrier who had mixed butter-cream frosting for a large bakery."



### This Little Pig Went to Market

When pigs go to market and become pork chops, hams, and hotdogs, USDA officials need to know each pig's life story — not for bedtime reading, of course, but to help keep the meat supply safe and wholesome.

For example, if USDA inspection at the meat plant were to reveal pesticide residues in a hog carcass, officials would need to figure out how and where the hog became contaminated. They'd also need to see how many hogs were affected and keep all that meat out of the "market."

A swine identification and record-keeping system would make it possible to trace an animal's whereabouts from birth to slaughter. That's why USDA is moving to set up an identification and trace-back system for all hogs in interstate commerce. If the system works well with swine, USDA could later broaden it to other species.

USDA has issued a proposal — the first step in the regulatory process — calling for a nationwide system. Industry and other interested persons submit their ideas during a 60-day comment period. Then USDA officials study the comments to develop a workable system that is published as a final rule.

Under the proposal, USDA would require that each person who raises, buys, sells or transports hogs would have to maintain records on swine identity and would have to make those records available to USDA officials.

Then, in case contamination or animal diseases occurred, USDA officials could look for causes at each place where hogs were raised, traded or shipped. They could test other animals from those same sites and contain the problem. The system would help make all the pigs safe to go to market.

— Hedy W. Ohringer

### Protecting Yourself From Osteoporosis

Osteoporosis is a disabling disease characterized by thinning, brittle bones. It's called the "ticking time bomb" because it develops without any symptoms and can only be diagnosed after the bones have weakened enough for fractures to occur.

The Food and Drug Administration (FDA) sponsored "A Special Topic

Conference on Osteoporosis" last October to clear up some of the confusion surrounding this widespread disease.

The conference yielded important facts about the disease and also recommended specific guidelines on prevention.

Osteoporosis affects 15 to 20 million Americans and has led to 1.3 million bone fractures a year in people over 45.

Bone tissue builds in childhood, and at ages 20 to 30, bones are at their strongest. Around the age of 35, bones begin to lose calcium faster than it is replaced, and they become less dense.

Although osteoporosis occurs most often in postmenopausal women and older persons, several characteristics may put a person at greater risk of developing it.

Known risk factors include being a Caucasian woman, early (before 45) menopause, smoking, chronic low calcium intake, inactivity, excessive use of alcohol and being slight of build.

FDA recommends that dairy products and other calcium-rich foods such as leafy green vegetables, beans and grains be added to the diet. The beneficial effects of calcium supplements are still being researched.

Weight-bearing exercise (such as walking, hiking, bicycling, jump rope, etc.) is also recommended since regular exercise stimulates the growth of new bone.

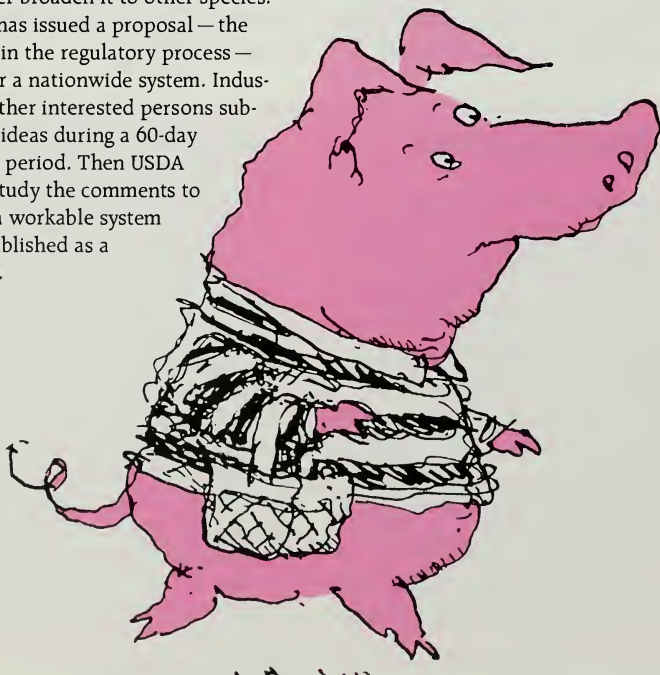
Although weakened bones cannot be restored to normal strength, these measures can help maintain bone mass or slow down the rate of bone loss.

**For more information**, write for a free copy of "Boning Up On Osteoporosis" from:

the Food Marketing Institute  
1750 K Street, N.W.  
Washington, D.C. 20006.

For general information, contact:  
the National Osteoporosis  
Foundation  
1625 Eye Street, N.W., Suite 1011  
Washington, D.C. 20006.

— Liz Lapping



# SAFE FOOD TO GO —

## For Lunches & Picnics

Particularly in warm weather, if you could just throw the refrigerator under one arm and take it with you, there wouldn't be any problem in caring for food to go.

That's because the best way to fight food poisoning is to keep perishable foods — especially meat and poultry — cold between preparation and serving.



**Why keep food cold?** At warm temperatures — 60°F and over — food poisoning bacteria can begin to multiply and cause illness. At summer temperatures of 80°F and above, they multiply very quickly.

While food poisoning usually means uncomfortable intestinal flu-like symptoms, it can be serious — in the young, the old, and people with other illnesses. The rarely-occurring botulism, of course, is always serious.

Food poisoning is a larger problem than you might think too — over 4 million people a year are affected!

Plus, food poisoning bacteria are tough to deal with because you usually don't even know they're present.

They are microscopic in size, and you normally can't see, smell, or taste them.

So, **for food safety, prevention is the watchword.** By observing the cold storage, sanitation, and thorough cooking rules in this leaflet, you can keep your food safe any time you pack it to go, starting with lunch . . .

### "What Do I Have for Lunch?"

A trying question, right? And one you face day after day. Whatever you put together, though, here's how to pack it safely — whether in a school lunchbox, a plain brown bag, or a leather attaché case.

#### Packing safe

- Keep everything that touches food clean. Stop and wash your hands before preparing food. And wash utensils, bowls, and countertops — everything that touches food — between work on each dish.

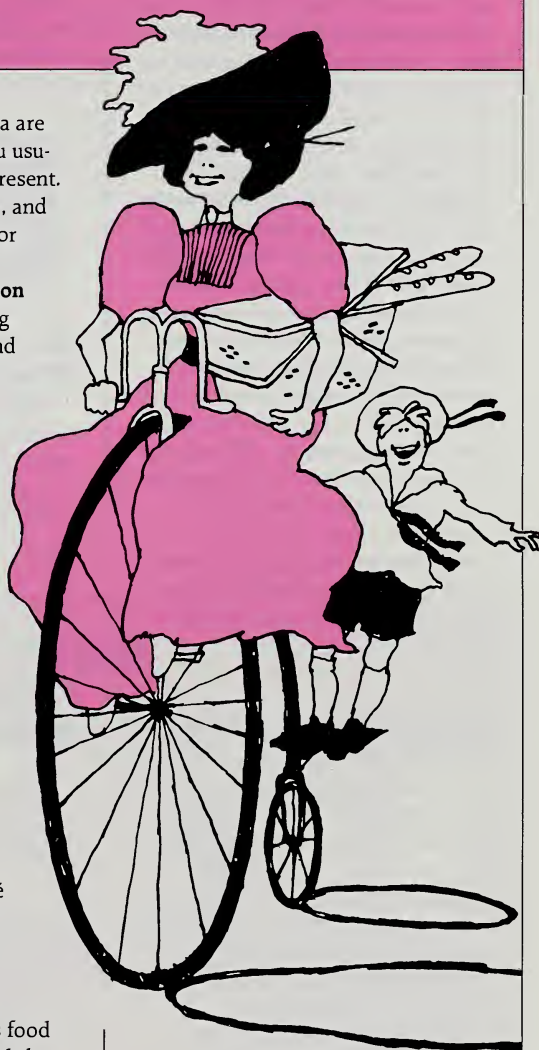
Use a fork — rather than your hands — to mix meat, macaroni, egg, tuna or green salads.

**Why all this emphasis on clean hands?** Your hands continually pick up bacteria and other germs, and these organisms dig in around the fingernails and in the creased skin of the hand. Only vigorous washing with

hot, soapy water prepares hands to safely deal with food.

- **Cook food thoroughly.** For complete safety, raw meat, poultry and fish should be thoroughly cooked, following package or cookbook directions.

- **Refrigerate lunch fixed the night before.** Pack your bag with perishables — meat or poultry sandwiches, hard-boiled eggs — and refrigerate it. Add chips and cookies (that go limp in the refrigerator) and cold drinks the following morning.





## Keep your lunch COLD

If possible, refrigerate your lunch again at work or school. If not, here are some other "cooling" tips:

- **Put something cold in the lunch bag** — a cold drink, a small, plastic refrigerator dish filled with water and frozen, or one of the new commercial freezing gels. Some lunch bags now come with freeze-pack inserts.
- **Freeze your sandwiches.** This works best with coarse-textured breads that won't get soggy on thawing. The sandwich thaws in time for lunch, and it keeps everything else cool in the meantime. NOTE: Hold the lettuce, tomato and mayonnaise. They don't freeze well. Pack them to add at lunch time.
- **Use a thermos** to keep milk or juice cold until lunchtime. Or try the new fruit juices in special wax-paper cartons that need no refrigeration.
- **Whatever you do, keep your lunch in the coolest place possible.** Never leave it in direct sun or on a warm radiator.

## Safe take-along foods

**Meats & poultry.** Commercially pre-cooked and ready-to-eat meats, such as corned beef, salami and bologna, are good lunchbox choices because they last well.

Canned meat and poultry, which can be opened and eaten immediately, are a good bet too. Just make sure the can is properly sealed and not rusted, bulging, or badly dented.

**Fruits & Vegetables.** Fresh, firm fruits and vegetables travel well. Washing them before packing helps to remove soil you can see plus bacteria, viruses, and insecticide sprays you can't see.

## Caring for the carriers

If you use a **lunchbox** or one of the new laminated totes, wash it out every night to keep bacteria from growing in seams and corners. A weekly wash-out with baking soda should eliminate odors.

If you're a **brown bagger**, use only new, clean bags. Don't re-use bags that have carried groceries. They can pass insects or bacteria from other food to your lunch. **And NEVER use a bag that's wet or stained.** It could be very "germy."



## Got a microwave at work?

Great for warming-up leftover cuts, the microwave also heats sliced-meat sandwiches, and makes "meal-in-a-cup" soups.

NOTE: For safety's sake, keep perishables in the office refrigerator, if you have one, before microwaving at noon.

## "C'mon, Let's Have a Picnic!"

When a fine summer afternoon makes everyone "think picnic," you could find yourself organizing one.



Never fear. Find the picnic hamper and the cooler. Then thumb through these warm weather food care hints before you head to the store.

## Picnic shopping

• **Buy perishable products last at the store** and get them right home to the refrigerator, or into the portable ice-chest or insulated bag you're taking on the picnic. Never leave perishables in a hot car while you run other errands.

## Cold storage of picnic food

- **For quick use, perishable products can be kept in the refrigerator for a few days.** If the store wrap on meat and poultry is clean and not torn, leave it on. Otherwise, re-wrap products in clean plastic or aluminum wrap. Make sure the refrigerator is cooling food to 40°F or lower.
- **For longer storage, freeze food.** Wrap items tightly in heavy freezer foil or bags. Make sure your freezer registers 0°F or lower. NOTE: Mayonnaise-based meat, poultry and fish salads don't freeze well. Nor do tomatoes and lettuce.

## Thawing — do it the night before

Contrary to common practice, it's *not safe* to thaw meat and poultry on the kitchen counter. Bacteria can multiply dangerously in the outer layers before inner areas are thawed. Instead . . .

- To allow plenty of time for larger cuts to thaw, **take meat or poultry out of the freezer and put it on a refrigerator shelf a night or two before** you need it. Small cuts will usually thaw in the refrigerator overnight.
  - **But if the meat is still partially frozen** when you're ready to leave, no problem. Just cook it a bit longer at the picnic.
- And cook everything thoroughly.** Hamburger patties, pork chops, and ribs should be cooked until all the pink is gone; poultry until there is no



red in the joints. Fresh fish should be cooked until it "flakes" with a fork.

**Steak?** If you like your steak rare or medium rare, just remember that there is a chance that some food poisoning organisms can survive such short cooking times.

### **Take what you know about kitchen cleanliness out to the grill**

- If there's no water faucet available, use disposable, wet hand-wipes to **clean your hands before working with food.**

- **Keep bacteria on raw meat and poultry from spreading.** Wash your hands again after working with raw meat or poultry and before handling other food.

And take up cooked meat and poultry with clean utensils onto a fresh plate for serving. Don't re-use utensils, plates, or bowls you used with the raw product — for either the cooked meat or the other food.

### **COOL-IT with a cooler**

For a relaxed, worry-free picnic, keep your perishable food — ham, potato or macaroni salad, ham-burgers, hotdogs, lunch meat, cooked beef or chicken, deviled eggs, custard or cream pies — in a cooler.

While all mayonnaise-based salads should be kept on ice, the *mayonnaise you buy at the store is not a food poisoning villain*. Its high acid content actually slows bacterial growth. But home-made mayonnaise, if made without lemon juice or vinegar, can be risky.

The cooler should be well-insulated and packed with ice, or you can use a freeze-pack insert. Cold drinks in cans help keep other food cool too.

When possible, place the cooler in the shade. Keep the lid on.

### **Leftovers?**

Put perishable foods back in the cooler as soon as you finish eating. Don't leave them out while you go for a swim or hike.

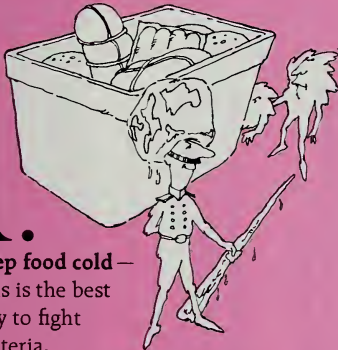
When possible, put the chest in the passenger area of the car for the trip home. It's much cooler than the trunk!

If you were gone no more than 4 or 5 hours, and your perishables were on ice except when cooked and served, you should be able to save the leftovers.

## **6 Summertime Food Safety Rules**

**1.**

**Keep food cold** — This is the best way to fight bacteria.



**3.**

**Don't spread bacteria from raw meat and poultry** to other food. Wash hands after contact with raw meat and poultry. Use a fresh plate-and-utensil set for each food.



**5.**

**Don't use food from damaged containers** — Check cans and glass jars for dents, cracks or bulging lids; paper packages for leaks and stains.



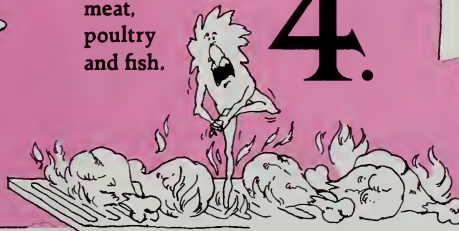
**2.**

**Keep bacteria on your hands out of food** — Everyone in the family should wash hands before preparing food.



**4.**

**Thoroughly cook raw meat, poultry and fish.**



**6.**

**Take "summer stock" of your appliances** — Check that your refrigerator registers a safe 40°F or lower. Freezers and freezing compartments should be set at 0°F or lower.



## Understanding the Food Poisoners

**What is Food Poisoning?** Food poisoning, caused by harmful bacteria, normally produces intestinal flu-like symptoms lasting a few hours to several days. But in cases of botulism, or when food poisoning strikes infants, the ill or the elderly, the situation can be serious.

**Where do these bacteria come from and how can they be stopped?** Food poisoning bacteria, microscopic in size, surround us — in the air, soil, water, in our own digestive tracts and in those of many animals. The only way they can effectively be stopped is by careful attention to food handling rules like those outlined in this leaflet.

Bacteria	How It Attacks	Symptoms	Prevention
<b>Staphylococcus aureus (Staph)</b>	Staph spreads from someone handling food. It is found on the skin and in boils, pimples and throat infections. At warm temperatures, staph produces a poison.	2-8 hours after eating, you could have vomiting and diarrhea lasting a day or two	Cooking won't destroy the staph poison, so: —Wash hands, utensils before preparing food. —Don't leave food out over 2 hours. —Susceptible foods are meat, poultry, meat and poultry salads, cheese, egg products, starchy salads (potato, macaroni, pasta and tuna), custards, cream-filled desserts.
<b>Salmonella</b>	You can get salmonella when infected food — meat, poultry, eggs, fish — is eaten raw or undercooked. Other cases? When cooked food comes in contact with infected raw food, or when an infected person contaminates food.	In 12-36 hours you could have diarrhea, fever and vomiting lasting 2-7 days.	Keep raw food away from cooked food, and: —Thoroughly cook meat, poultry, fish. —Be especially careful with poultry, pork, roast beef, hamburger. —Don't drink unpasteurized milk.
<b>Clostridium perfringens</b>	This "buffet germ" grows rapidly in large portions of food that are cooling slowly. It can also grow in chafing dishes which may not keep food sufficiently hot, and even in the refrigerator if food is stored in large portions which do not cool quickly.	In 8-24 hours you could have diarrhea and gas pains, ending usually in less than a day. But older people and ulcer patients can be badly affected.	Keep food hot (over 140° F) or cold (under 40° F), and: —Divide bulk cooked foods into smaller portions for serving and cooling. —Be careful with poultry, gravy, stews, casseroles.
<b>Campylobacter jejuni</b>	You drink untreated water on an outing. Your pet becomes infected and spreads it to the whole family, or you eat raw or undercooked meat, poultry or shellfish.	In 2-5 days you could have severe (possibly bloody) diarrhea, cramping, fever and headache lasting 2-7 days.	Don't drink untreated water or unpasteurized milk, and: —Thoroughly clean hands, utensils and surfaces that touch raw meats. —Thoroughly cook meat, poultry and fish.
<b>Clostridium botulinum</b>	Often occurs in home-canned or any canned goods showing warning signs — clear liquids turned milky, cracked jars, loose lids, swollen or dented cans or lids. Beware of any jar or can that spurts liquid or has an off-odor when opened.	In 12-48 hours your nervous system could be affected. Symptoms? Double vision, droopy eyelids, trouble speaking and swallowing, difficult breathing. Untreated, botulism can be fatal.	Carefully examine home-canned goods before use, and: —Don't use any canned goods showing danger signs. —If you or a family member has botulism symptoms, get medical help immediately. Then call health authorities.

**Note:** While the Chart highlights the preventive measures most important in avoiding each type of bacteria, you should understand that all the rules of prevention should be followed with all food.



# Ranger Duck says: Don't let food germs that can make you sick spoil your summer fun!



**PUZZLE**  
Use the food safety "clues" to solve this word puzzle.

C A M P I N G

In the picnic picture, they're washing their hands, have cooler in the shade and the father is checking to see the meat's done.

CANS  
WATER  
MEAT  
PICNIC  
FIRE  
HANDS  
GRILL

## ANSWERS

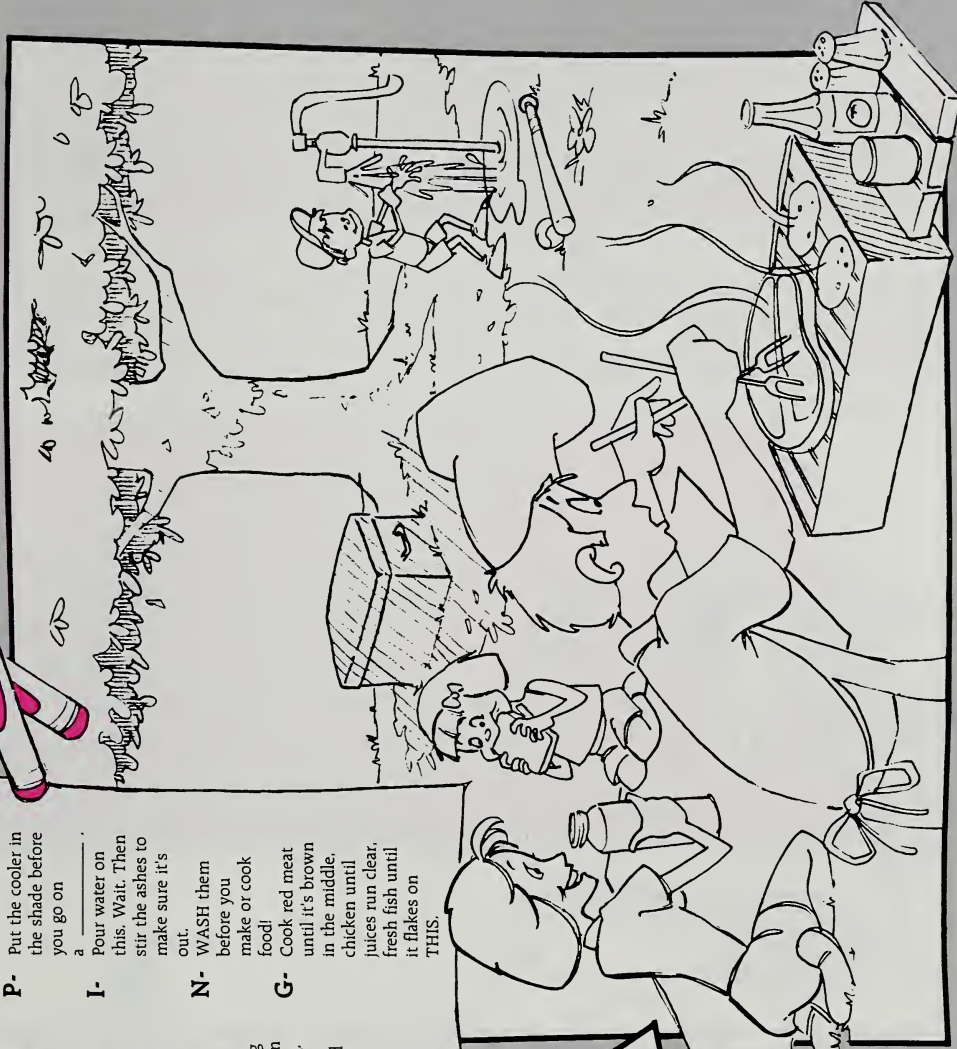
## CLUES

- C-** Don't use food in these if they are dented or bulge out.
- A-** If this comes from a stream or lake, boil it for drinking or use in cooking. Keep this and chicken **COLD**.
- M-** Wash them before you make or cook food!
- G-** Cook red meat until it's brown in the middle, chicken until juices run clear, fresh fish until it flakes on **THIS**.
- P-** Put the cooler in the shade before you go on a \_\_\_\_\_.
- I-** Pour water on this. Wait. Then stir the ashes to make sure it's out.
- N-** WASH them before you make or cook food!



**2**

**T**hen color where this family is following the rules to keep food safe from summer heat and germs. Did you find the 3 places?



by Paddy Kalahar,  
Regional Public  
Affairs specialist,  
Des Moines, Iowa.

**PARENTS, TEACHERS,** For more information on food safety and camping, see *Outdoor Education in Girl Scouting* and the *Field Book* from the Boy Scouts of America. And order **SAFE FOOD TO GO**, 597 R. Free, from the Consumer Information Center, Pueblo, Col. 81009.



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